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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,099	09/04/2001	Suk Won Choi	054358-5005	1756

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EXAMINER	
DUONG, TAI V	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/944,099	CHOI ET AL.	
	Examiner	Art Unit	
	TAI DUONG	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Peri d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

The rejections of claims 1-4 under 35 U.S.C. 112, first and second paragraphs, are withdrawn in view of Applicant's arguments that "the storage capacitance in nF is obtained by multiplying the unit storage capacitance in nF/cm^2 by the specified pixel area in cm^2" (page 4 of the amendment dated 02/19/03). In other words, Applicant implies that the (unit) storage capacitance in nF/cm^2 (as disclosed in the instant specification) is obtained by dividing the common storage capacitance in nF by the specified pixel area in cm^2.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the term "unit" of the limitation "unit storage capacitance" is not disclosed in the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al .

Note Example 8 which identically disclose the claimed LCD comprising a smectic liquid crystal having spontaneous polarization of 20 nC/cm^2, and a unit storage capacitance of 11.8 nF/cm^2 (col. 30, lines 38-60; col. 27, lines 49-65; col. 5, lines 18-22; col. 1, lines 66-67). The unit storage capacitance in nF/cm^2 is obtained by first converting Cs (2.48 pF) into nF and converting the pixel area S (2.7 x 10 μm^2) into cm^2, then dividing Cs in nF by the pixel area S in cm^2. $\frac{2.48}{2.1}$

$2.1 \times 10^{-4}\ cm^2$

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al.

Claims 2-4 additionally recite various ranges of the spontaneous polarization and the unit storage capacitance. It is noted that the claimed ranges overlap or lie inside ranges disclosed by Table 1 (col. 11) and Examples 2-4 of Yoshida et al. It has been held that in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997). In addition, in the absence of unexpected results, it has been recognized that optimization of ranges disclosed by the prior art or through routine experimentation would have been obvious to a person ordinary skill in the art. *In re Aller*, 220

F.2d 454, 456, 105 USPQ 233, 235, (CCPA 1955). In the instant case, it would have been obvious to a person of ordinary skill in the art to optimize the ranges disclosed by Yoshida et for obtaining a smectic active matrix LCD with good gradational display.

Any inquiry concerning this communication should be directed to Tai Duong at telephone number 703 308-4873.

TD

TVD

04/03

TOAN TON
PRIMARY EXAMINER